

**ABSTRACT**

The present invention provides a cytokine-binding domain or portion thereof which binds to at least one cytokine and is capable of transducing a cytokine signal through a single cytokine receptor, said domain comprising a portion of the B'-C' loop of domain 4 of a  $\beta_c$  chain or analogous structure of a cytokine receptor. In another aspect of the invention there is provided a method of identifying a compound having cytokine agonist or antagonist activity, said method including subjecting a potential cytokine agonist and/or cytokine antagonist compound to a cytokine binding domain or portion thereof wherein said domain binds to at least one cytokine and is capable of transducing a cytokine signal through a single cytokine receptor, said domain comprising a portion of the B'-C' loop of domain 4 of a  $\beta_c$  chain or analogous structure of the cytokine receptor; and determining the presence of an agonist or antagonist response of the compound on the activity of a cytokine. In a preferred aspect there is provided a method for identifying a GM-CSF, IL-3 and IL-5 agonist or antagonist, said method including: subjecting a potential agonist or antagonist to a GM-CSF, IL-3 and IL-5 binding domain or portion thereof wherein said domain binds to at least one of the cytokines and is capable of transducing a cytokine signal through a single cytokine receptor, said domain comprising a portion of the B'-C' loop of domain 4 of a  $\beta_c$  chain or analogous structure of the cytokine receptor; and determining the presence of a agonist or antagonist response from the compound on the activity of GM-CSF, IL-3 and IL-5/